## The 4.0 Industry in France

France is becoming a leader in the 4.0 Industry, competing with countries such as the United States, Germany, and Japan. France had and estimated 700 businesses in the 4.0 industry in 2017, worth approximately 6.8 billion euros in revenue, which over half came from exports. The five prominent sub-sectors in France include: Industrial Internet, Additive Manufacturing, Simulation, Robotics, and Cybersecurity.

## **3D Printing in France**

The French market for metal 3D printing parts is relatively recent. Most metal 3d printers on the market are sold to R&D centers or universities. France accounts for an estimated 200 companies in AM, 60 R&D centers, and 40 clusters, innovation centers, and labs. Most are small and medium sized enterprises that focus on product development.

The leading manufacturer in France, <u>Prodways</u>, is thought to be one of the only French companies to establish itself in 3D polymer printing that compete with American and German firms. Prodways has recently purchased AvenAo Industrie, the most important integrator of Dassault Systèmes SOLIDWORKS applications. After the integration Prodways experienced a 75% increase in sales. Prodways focuses mainly on polymers and ceramics but have started to market their metal 3D printer.

Another notable player is <u>Construction 3D</u>, a startup with a lightweight portable printer that can reside in a container of about 6 meters, making it a more transportable solution. Other companies in France are <u>AddUp</u> (which acquired 100% of BeAM and is a joint venture of Fives and Michelin), <u>Sculpteo</u>, <u>3D Prod</u>, <u>Volum-e</u>, and <u>Pollen AM</u>.

Other European competitors in France include: <u>EOS</u> (rapid prototyping and laser-sintering), <u>Trumpf</u> (laser-cutting, punching, and bending), and <u>SLM Solutions</u> (3D printers ranging in 5 different sizes) all from Germany, <u>3D Hubs</u> from the Netherlands (subtractive manufacturing process and 5-axis CNC machining), <u>Arcam</u> from Sweden (fast production from CAD), and <u>Materialise NV from Belgium</u> (rapid prototyping, stereolithography, and laser sintering).

A few U.S. companies already have a strong presence in France including <u>Stratasys</u>, <u>GE additive</u>, <u>3D Systems</u> and <u>Hewlett Packard (HP)</u>. 3D Systems has a headquarters in Le Mans and acquired two French Prototypes; CEP and PROTOMETAL to expand its rapid prototyping and manufacturing services. HP has three offices in France; Grenoble, Meudon, and Strasbourg.

U.S. firms looking for partnerships and willing to obtain more information, should contact the U.S. Commercial Service.....